

1 respectfully requests that he be permitted to delay correction of the drawings until such time as the  
2 present application is allowed. At that time, Applicant will submit corrected drawings. It is believed  
3 that the inclusion of the missing reference numerals and legends will resolve those informalities in  
4 the disclosure also.

## 5 1. BACKGROUND

6 In response to examiner's first Action dated 10/02/01, applicant filed his first Amendment  
7 on March 4, 2002. On March 6, 2003 applicant had an interview with examiner to show a video of  
8 surface and subsurface tests of Transonic Hull models. It was necessary at that time for applicant  
9 to revoke the power of attorney of Adam Jacobs, since otherwise examiner would not have discussed  
10 any claims with applicant in the absence of his attorney, who was not present for the interview  
11 (applicant did not know his presence was necessary). As coordinated during the interview, promptly  
12 thereafter, on March 13, 2003, applicant submitted a Supplementary Amendment pertaining some  
13 changes on its claims filed on of March 4, 2002, and presenting two new claims covering radar-  
14 evading inventive features, which were reviewed during the interview and appeared to be allowable.  
15 Shortly thereafter, on April 30, applicant received a Final Action which indicated that the March 13,  
16 2003 Amendment had not been considered for not complying with the format under 37 CFR 1.121.  
17 To expedite the prosecution of this case, the technical aspects of the interview, reviewed on the  
18 interview, are summarized in Appendix I of this Amendment, including an outline of the TH video,  
19 photos of unpowered TH mockups in static tests in a sea, and published illustrations of latest (2002)  
20 stealth boat configurations of various ship companies.

## 21 2. CURRENT SITUATION

22 Applicant appreciates the claims which the final action of April 30, 2003 stated were allowed  
23 or allowable. Other important claims were rejected citing new prior art, namely Spear, Patent No.  
24 1,154,215 issued in 1915 on a submarine, Wheless, Patent No. 806,223, issued in 1905 on a  
25 submergible surface boat, and Briggs, Patent No. 2,444,332, issued in 1944 on wing folding  
26 arrangement for submersible aircraft. An in-depth diligent response by applicant is now needed,  
27 particularly for the following reasons:

- 1 - Applicant has finally found funding to construct the first manned engine-powered mission-  
2 capable TH boat, based on the unique surface-subsurface and radar-evading multimission TH  
3 configuration of the type covered by the present application. The new TH program is the  
4 crucial culmination of the extensive theoretical and experimental model test program on TH  
5 reviewed in the March 6, 2003 interview (see Appendix I), which lead to the unpowered non-  
6 structural testing mockup already reviewed on March 6.
- 7 - Important claims which were indicated to be allowable in the March 6 interview pertaining  
8 to the radar-evading features and were promptly submitted under the supplementary  
9 amendment of March 13, 2003 were not considered due to their being submitted in  
10 acceptable format. As Attorney Adam Jacobs was not involved at that time, the format  
11 problems were not resolved, hence the submission of the previously submitted claims at this  
12 time.
- 13 - Other important claims in the application have been rejected on additional prior art cited by  
14 the Examiner after the March 6, 2003 interview, and now are being addressed under final  
15 rejection.

16 Towards filing the present amendment with appropriate diligence, applicant has reappointed  
17 attorney Adam Jacobs of Omaha, Nebraska, Reg. No. 37,852, who was already familiar with the  
18 case. The corresponding Power of Attorney is signed and attached herewith.

19 Moreover, applicant has visited Omaha for four days to assist Mr. Jacobs towards an in-depth  
20 and responsive amendment which applicant, having in mind the crucial culminating TH program for  
21 a mission-capable, manned, engine-powered TH boat, respectfully requests be fully considered by  
22 the examiner on the merits of the application and this amendment.

### 24 3. TASKS OF THE PRESENT AMENDMENT

25 A summary of the tasks of this amendment are as follows:

- 26 - to cancel certain claims,  
27 - to show the allowability of important remaining claims filed by amendment of March 4, 2002

1 over the recently cited art, and

2 - to add the two claims (53 and 54) which were discussed during the March 6 interview and  
3 which appeared to examiner to be allowable, adding here that the new art cited by examiner  
4 in his action of April 30, 2003 are not at all related to these two claims.

5 Before proceeding further in this amendment it is noted that there are minor discrepancies  
6 in the Summary of the office action of October 4, 2002 and the content of Examiner's Detailed  
7 Action, specified in his pages 2, 3, 4, 5, and 6. The present response pertains specifically to the  
8 content of Examiner's Detailed Action, it being understood that the discrepancies in the summary  
9 are numerical errors.

10 4. GENERAL COMMENTS ON ACTION OF APRIL 30, 2003

11 The following is presented in the same numerical order as in the detailed action.

12 4.1 It is recognized that the Supplemental Amendment of March 13 has not been entered.  
13 Some of its content is included in the present Amendment, with consideration given to the old art  
14 newly cited by examiner. However, it is understood that the Supplementary Amendment, which  
15 reviews the technical presentation during the interview, as well as the discussions on the claims  
16 reviewed at that time, remains in the file of the present application.

17 4.2 Applicant appreciates the approval of substitute specification of 7/31/2002.

18 4.3 Applicant agrees that Fig. 1 and 2 of his application will be designated as prior art and  
19 respectfully requests this instruction be carried out upon allowance of the case, at which time all the  
20 drawings of the application will be resubmitted in clean form.

21 4.4 The clarification required by Examiner regarding weights of water displaced is  
22 appropriate, in which there was an evident predominance of legal language over technical language.  
23 The subject has been clarified by this amendment.

24 4.5 Applicant appreciates the claims allowed and allowable in examiner's action of April  
25 30, 2003.

26 4.6 Paragraphs 5 to 16 of Examiner's Action of April 30, 2003 pertain to rejection of  
27 many claims in the application, in light of new art cited by examiner, but also including other  
28

1 shortcomings in certain claims.

2 4.7 The conditions of the claims in the April 30, 2003 Action are summarized as follows:

3 - Claim 25 and 26 remain in an allowed condition.

4 - Claims 1-4, 6-16, and 19 are allowable if rewritten or amended to overcome rejections  
5 under 35 U.S.C. 112, second paragraph, as failing to particularly point out and distinctly claim the  
6 subject matter which applicants regards as the invention.

7 - Other claims, some of considerable importance for the application, are rejected under  
8 35 U.S.C. 102(b) as anticipated by prior art recited previously as cited by examiner.

9  
10 ON THE ALLOWANCE OF ALL REMAINING CLAIMS

11 Claim 1 has been amended to correct the § 112 indefiniteness problems, specifically the  
12 problems, as have claims 7 and 13. Claim 16 has been modified to clarify those features which  
13 applicant regards as his invention and thus is believed to be allowable with claim 1, specifically by  
14 including technical specifications shown on page 17, paragraphs 3, 4 and 5 and the claim has been  
15 amended directly with the technical language of the specifications and should clearly be allowable  
16 as amended. It is thus believed that claims 1-4, 6-16 and 19 are now in allowable condition.

17 Claims 17, 18 and 20 through 24 were canceled. Claims 25 and 26 are allowed over the prior  
18 art. Claims 27 and 29 have been canceled. Regarding claims 28 and 30, they have been amended  
19 to depend from claims 41 and 25 respectively and as each of claims 41 and 25 are believed to be  
20 allowable (claim 25 certainly so), claims 28 and 30 are believed to be allowable with claims 41 and  
21 25.

22 By way of further discussion on the rejections of claims 28 and 30, applicant states as  
23 follows: Perce necessarily teaches a body with hemispherical rear end number 20, 16. Bandy  
24 necessarily teaches rudders 24 and 28 mounted on his cylindrical rotatable body 22. Those skilled  
25 in the art cannot confuse rudders with flaps. Cylindrical and hemispherical rear body shapes of the  
26 art cited are not compatible with applicant's rear body shapes which are wedges. The aft face of  
27 Bandy's rear cylinder is perpendicular in side view to his longitudinal dimension and cannot be  
28

1 construed as an edge. On the merit of the above discussion applicant respectfully indicates Bandy  
2 and Perce are not art that can be cited for the properly amended claim.

3 Claim 31 depends from allowable claim 30, while claim 32 now directly depends from claim  
4 25, which has already been allowed. Claims 33, 34 and 35 have been canceled. Regarding claim  
5 36, it has been amended to depend from allowed claim 25, and thus is believed to be allowable, but  
6 applicant would make the following statements regarding Perce for the record. Claim 36 specifies  
7 that applicant's body with wings has a center of buoyancy on surface different from a center of  
8 buoyancy in subsurface. In Examiner's action of October, 2, 2001, Claim 36 was rejected on Perce,  
9 with Examiner stating that a shift of the center of buoyancy as claimed is an inherent feature in  
10 submersible craft. This argument is repeated in Examiner's action of April 30, 2003.

11 Applicant has diligently read the entire patent of Perce with the following facts noted:

- 12 a) Perce is concerned only with control maneuvers and speed (col. 1, lines 18-22).
- 13 b) Perce has a forward set of (control) fins, and a separate set of aft fins (column 1, lines 21-22).
- 14 c) The fins are for maneuver (Perce, col. 1, line 52).
- 15 d) Perce states "the controls features of the underwater craft and the surface craft  
16 will be the same" (col. 1, lines 59-60).
- 17 e) Perce boat must have a center of gravity, and therefore a center of buoyancy at the same  
18 station.
- 19 f) Perce does not mention the term center of buoyancy, or any equivalent term in his  
20 specification.

21 It follows from d) and e) that a person skilled in the art concludes that Perce has only one  
22 center of buoyancy. Moreover, Perce teaches nothing on center of gravity or center of buoyancy.  
23 Perce is unrelated to Claim 36. In consequence, applicant respectfully states that the rejection of  
24 applicant's claim with two buoyancy centers based on Perce is not supported by Perce. Moreover,  
25 it is respectfully submitted that all submersibles have one center of gravity on surface and  
26 submerged, and consequently one center of buoyancy. A unique feature of applicant's invention is  
27 his use of aircraft theory in the design of his winged water craft, in which, specifically, the type and  
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1 total of vertical forces change substantially from gravitational on surface to gravitational plus  
2 substantial hydrodynamic forces in subsurface, the latter specifically located at a different  
3 longitudinal station than that of the center of gravity. This allows on applicant's body to shape the  
4 body so it has two center of buoyancy CB as follows:

- 5 - surface CB necessarily at center of gravity
- 6 - subsurface CB responding to the vector sum of downward gravity force at CG plus  
7 hydrodynamic down force at its hydrodynamic center (similar to aircraft's aerodynamic  
8 center), which is intentionally at a longitudinal station different from the CG.

9 In consequence, applicant indicates Claim 36 should be allowable over Perce or other  
10 submersible art. Realizing that the argument above is better understood with original dependent  
11 Claim 37 which is dependent on original Claim 36, applicant has incorporated the limitations of  
12 Claim 37 in Claim 36, also adding specific language which complies with the technical aspects  
13 above. In consequence, Claim 37 is canceled, and applicant respectfully submits that amended  
14 Claim 36 is now allowable. To further expedite the prosecution of this case Claim 36 has now been  
15 made dependent on Claim 25, which, as was previously stated, is allowed.

16 Regarding claim 38, it should be noted that the claim pertains to body shape above water  
17 surface and was rejected originally by Mills in Examiner's first action, and thereafter as dependent  
18 on canceled claim 20, and as indefinite. The rejection on Mills is not understood because Mills  
19 shows either a subsurface shape in his Fig.1 (Mills, column 1, lines 10-14) or a shape below the  
20 waterplane of surface boat, as in Fig. 2, (column 2, lines 15-24). Fig. 2 does not show any body  
21 shape above the waterplane of his boat.

22 Accordingly, the rejection of claim 38 on Mills does not appear to impede claim 38.  
23 Nevertheless, there are more important additional points of distinction between claim 38 when  
24 amended to overcome its rejection on indefiniteness, which make amended claim 38 even more  
25 distinct and therefore in greater clarity against Mills.

26 The rejection of claim 38 on its dependence on canceled claim 20 was an inadvertent error.  
27 It was intended, and is hereby made dependent on allowed claim 25, with additional language which  
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1 renders claim 38 precise and not indefinite. The principal features of the amendment on claim 38  
2 are: the specification of the maximum width of the planform adjacent the rearward end, the  
3 maximum height of the profile view adjacent midbody, the definition of upper body surfaces as  
4 connecting the outer edges of the planform to the upper regions of the profile view, with principal  
5 upper body surface panels generally free of twist, all of which is qualitatively different from Mills  
6 or from any other of the art cited by Examiner individually or combined, and is no longer indefinite.  
7 Applicant therefore respectfully submits that amended claim 38 is now allowable. Claim 39 is  
8 dependent on claim 38 and was rejected on indefiniteness and on dependence on canceled claim 20.  
9 With the present amendment of present claim 38, and with minor changes in the language of claim  
10 39, applicant respectfully submits that claim 39, now ultimately is allowable in connection with  
11 allowed claim 25.

12 Turning to claims 40 through 43, it should be noted that these claims are critical to the  
13 applicant's invention and therefore it is hoped that the following discussion of the allowability of  
14 amended Claims 40 to 43 over Spears and over Mills will be subject to particular scrutiny by the  
15 examiner. Claim 40 to 43 pertain to the surface and subsurface TH shapes shown in Fig. 5, which  
16 is scaled, and in Fig. 3. These shapes have unique hydrodynamic properties, which were covered in  
17 claims 40 to 43 and rejected on Spears' for reasons which are understood. Since applicant's  
18 invention is clearly different in kind from Spears, and from Mills, before proceeding to review the  
19 amendments which make claims 40 to 43 allowable over both Spears and Mills, applicant would like  
20 to review certain inherent characteristics of Spears and of Mills, from which applicant's invention  
21 differs qualitatively and structurally.

22 Spear's submarine shows an overall height in profile adjacent its bow (his Fig. 1)  
23 approximately equal to the overall width in planview adjacent its rearward end; the latter defined by  
24 the width of elevator appendages protruding laterally outside his elongated body (his Fig. 2).  
25 However, claim 40 recites an "elongated body" and the elongated body of Spears' has an overall  
26 height between upper and lower surface portion adjacent to its bow (0.55 inches in Fig. 1) which is  
27 considerably larger than the width between right and left side of Spears' elongated body in planview  
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1 adjacent to his rearward end (0.32 inches in his Fig. 2). Thus, Spear's elongated body teaching is  
2 precisely contrary to applicants elongated body, which as shown in applicants' Fig. 5 to scale, has  
3 an overall height in side view between its upper and lower surface portions adjacent its bow (Fig.  
4 5E, scaled) which is substantially less (approximately 50%) than the width of applicant's elongated  
5 body in planview between right and left sides of its elongated body adjacent its rearward end (Fig.  
6 5C scaled). To clarify this important distinction, claim 40 to 43 have been amended to recite the  
7 height in side view adjacent forward end, and width in plan view adjacent its rearward end of its  
8 elongated body as the distance between surface portions of the elongated body adjacent its ends.

9 Applicant's surface and subsurface TH body also differs qualitatively from Mills'  
10 submersible, which necessarily has a forward height equal to its rearward width and also must have  
11 equal entry-exit angles. Fig. 1 of Mills illustrates the construction embodied in devices for use  
12 entirely immersed in water (Mills Pg. 1 column 1, lines 10-14), and specifically and unequivocally  
13 calls for a forward height in side view exactly equal to the aft width in planview and an entry angle  
14 equal to exit angle: "as shown in Mills' Fig. 1. Both ends being alike, the body will pass through  
15 the air, water or other fluid with equal ease in either direction..." (Mills pg. 2, column 1, lines 64-  
16 68), as well as is shown in Mills' Fig. 1 equal distance c-c in cross-section at bottom left and distance  
17 a'-a' in cross-section at bottom right).

18 It is further clarified that Mills' Fig. 2 is not relevant, as it does not pertain or teach a  
19 submersible form. "...Fig. 2 (Mills) illustrates the form when but two sides are to be subject to the  
20 action of resisting fluid medium," (Mills pg. 1, column 1, lines 13-14), a situation further clarified  
21 by Mills' qualifications of Fig. 2 "it represents the application of the invention to boats and other  
22 craft partially immersed in the water." (Mills', page 2, column 1, lines 20-23). Hence, Mills' Fig.  
23 2 is not relevant to subsurface craft such as applicant's watercraft. It is noted, in passing, that Mills'  
24 Fig. 3 is not an embodiment of the invention, but a geometric aid to explain (in convoluted language)  
25 Mills' own work.

26 Furthermore, Mills' boat embodiment in his Fig. 2 differs structurally from applicant's, in  
27 that the midbody region of Mills' boat has necessarily only two sides, displacing the water's volume,



1 as shown in the two diagonal sides b-b at the bottom of Fig. 2 of Mills. In contradistinction, and  
2 structurally and hydrodynamically different, applicant's TH midbody when in surface boat mode,  
3 has three surfaces displacing the water's volume, for example, as shown in cross section 5D for  
4 applicant's TH boat in Figs. 5a and 5b. The qualitative and other distinctions between applicant's  
5 craft and Spears' and Mills' boats are incorporated in claims 40-43 as is reviewed below.

6 Amended Claim 40 is allowable over Spears not only because it now clearly recites that the  
7 forward height in side view between upper and lower surface of its elongated body (i.e. surface of  
8 that body) is substantially less than the rearward width in planview between right and left sides of  
9 the elongated body, as is clearly shown in applicant's Fig. 5, which is to scale, but also because that  
10 rearward width is greater than the width of the midbody region of applicant's elongated body, which  
11 is clearly impossible for Spears. In claim 40, the substantially reduced height in side view relative  
12 to the rearward width in planview is also impossible for Mills' only submersible body (Mills' Fig.  
13 1) which requires a forward height on sideview to be exactly equal to Mills' rearward width in  
14 planview as already explained. Furthermore, amended claim 40 now has three surfaces in its  
15 midbody, which is clearly different from Mills. Hence, it is respectfully submitted that amended  
16 claim 40 is also clearly allowable over Mills.

17 Regarding claim 41, it should be noted that original claim 41 specified a forward height of  
18 approximately 50% of rearward width. Amended claim 41 is now presented in independent form,  
19 so that it properly defines forward height in side view and rearward width in planview as pertaining  
20 only to elongated body, (i.e. excludes lateral appendages as shown in Spears), and then quantifies  
21 the height forward as approximately 50% of the width rearward, clearly contrary to Spears' elongated  
22 body, which has a larger forward height than its rearward width, and also clearly impossible for  
23 Mills, whose only submersible shape requires a forward height necessarily equal to its rearward  
24 width. Moreover, when in surface operation applicant's midbody has three surfaces, clearly  
25 qualitatively different from Mills' surface boat of his Fig.2 which has only two surfaces. Hence, it  
26 is respectfully submitted that amended claim 41 is clearly allowable over both Spears and Mills.

27 Regarding claim 42, newly amended claim 42 now clearly overcomes Spears with two basic  
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1 restrictions with strict language pertaining its elongated body, as follows: a) midbody height in  
2 sideview less than rearward width in planview, clearly impossible for Spears and b) forward body  
3 height in sideview substantially less than body rearward width in planform, which is contrary to  
4 Spear's teachings, which are the reverse. In addition, restriction b) clearly makes Claim 42 allowable  
5 over Mills, which requires forward heights equal to rearwards widths. Moreover, applicant's  
6 midbody is qualitatively different from Mills' midbody of his Figure 2, as was reviewed before.

7       Regarding claim 43, newly amended claim 43 now clearly overcomes Spears with a  
8 fundamental restriction possible with strict language pertaining applicant's elongated body as  
9 follows: rearward width in planview larger than midbody width in planform. Claim 43 also  
10 overcomes Mills' submersible body in that applicant's included angle in profile of its rearward end  
11 is substantially larger than the included angle in planview of its forward end, which is clearly  
12 impossible for Mills' Fig. 1, which inherently and necessarily has equal angles at forward end and  
13 rearward ends, as has been discussed. Moreover, applicant's midbody is qualitatively different from  
14 Mills' midbody of his Figure 2, as was reviewed before.

15       Claim 44 depends from allowable claim 40 and thus is believed to be allowable therewith,  
16 and further is believed allowable for the following reasons. Applicant observes that Briggs teaches  
17 folding wings deployed for flight of a submersible vehicle and as such is irrelevant to applicant's  
18 amended claim 44, which claims hydrodynamic wings for a surface-subsurface water craft. Because  
19 water weighs 840 times more than air, anyone skilled in the art could not use the teachings of Briggs  
20 aerodynamic wings to Applicant's hydrodynamic wings. Moreover, Briggs teaches that "when the  
21 side wings are extended, the submersible aircraft may be used in aerial flight. It is operated in the  
22 usual way that an airplane is operated. For riding on the water, or submerging, the submersible  
23 aircraft is operated just as a submersible. The side wings are folded into compartment area not to  
24 interfere with water operations". (Briggs, column 3, lines 23 to 29). Accordingly, applicant believes  
25 that Claim 44 should be allowable over Spear in view of Briggs, in that the teachings of Briggs'  
26 wings pertain to flying submersible which when submerged has no wings in contact with water,  
27 whereas applicant wings of claim 44 pertain to a water craft not capable of flight having wings which  
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1 act in subsurface motion in direct contact with water.

2 Applicant respectfully submits that amended claim 44 is allowable on two bases. First, it is  
3 impossible for a person skilled in the art to apply Briggs' wings for flight, specifically required to  
4 be retracted when submerged, to Spear's submersible, and produce applicant's elongated body which  
5 is not capable of flight with hydrodynamic wings which must be in contact with water when  
6 subsurface. Second, amended claim 44 specifically recites hydrodynamic wings to provide vertical  
7 forces when in subsurface operation.

8 Claim 45 is believed to be allowable as it is dependent on amended claim 40. Claim 46  
9 corresponds to original dependent Claim 32, which was dependent on original 22, in turn dependent  
10 on original claim 20 (now 40). In the examiner's action of 10/02/01, item 11, examiner indicated  
11 that original claim 32 would be allowable if rewritten in independent form including all limitations  
12 of base and intervening claims. Examiner's action of April 30, 2003 cited Spear 1,154,215 as new  
13 basis for rejection. Spear differs qualitatively and operationally from applicant's embodiment of his  
14 invention shown in his Fig. 5 F, and described in section 7 of applicant's specifications as TH for  
15 submerged passive surveillance.

16 The many differences between Spears' and applicant's inventions are as follows:

	INVENTION	SPEAR	CALDERON
1	Type of craft	submarine	surface and subsurface
2	Structural features	inner and outer hulls	single hull
3	Water tanks	forward, middle and rearward	only forward and rearward
4	Function of water tanks	when flooded, boat "nearly awash" (Col. 1, lines 51-52)	boat at rest at bottom of water, no forward speed
5	Size of rear tank	Length much greater than maximum width: Spear Fig. 5, aft of bulkhead 25	Length approximately equal to max beam: see applicant's length 103 in Fig. 5 F with max beam in Fig. 5 B

6	Downward force for subsurface operation	Water ballast in subsurface operation tanks	Hydrodynamic downward forces from wings
7	Location of batteries	Below midbody	At ends of mid body
8	Location of propeller	Conventional at stern	Below mid body

Claim 46 has been amended to recite important qualitative, functional and operational differences between Spear's submarine and applicant's craft as follows:

- water craft is capable of stationary rest at bottom of water body with rear tank flooded (as distinct from "awash" on surface)
- the term "external surface envelope" has been changed to -- surface envelope -- to clarify that applicant does not claim external and internal hulls as in Spear
- body height forward in side view is restricted to be substantially less than body width at rear, a clear distinction over Spear (see discussion on claim 40).
- a maximum height in mid body which is no greater than the width at the rear, clearly different from Spear.

These distinctions and others have been incorporated in amendment of claim 46 which clearly make claim 46 allowable over Spear.

Regarding claims 47, 48 and 49, Applicant respectfully believes that these claims are allowable with claims 41, 43 and 43 respectively, and such action is respectfully requested. Likewise, claims 50, 51 and 52 are believed to be allowable as they depend from claims 25, 47 and 44, respectively, each of which are either allowable in and of themselves or depend from allowable claims. It is therefore believed that all remaining previously submitted claims are currently allowable.

Regarding new claims 53 and 54, applicant notes that during the interview of March 6, 2003, applicant reviewed the current efforts of state-of-the-art ships, towards low radar signature (see SHEET 4 in Appendix I of the present amendment taken from Navy Times Dec. 2, 2002 showing a stealth Trimaran from General Dynamics, a stealth Catamaran from Lockheed Martin, a stealth

1 surface effect monohull from J. McMullen, and a monohull from Northrop Grumman). Applicant  
2 pointed out the unique and superior radar avoiding features of TH's upper body above waterplane,  
3 conforming to its triangular shape at waterplane, such as in Figs. 3 and 5 of present applications, with  
4 its favorable upper body shape, recommended in page 9 of the specifications (lower middle) and  
5 paragraphs (d) of page 18.

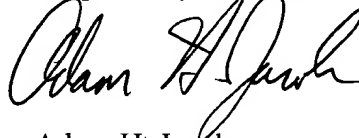
6 This type of upper body which is a new inventive development for TH not shown before,  
7 exhibits unique cooperation with TH's triangular waterplane of its submerged shape, as is evident  
8 in the carefully drafted claim 53. It is respectfully submitted that this new claim ties the unique  
9 cooperation between the waterplane of the submerged hull portion with that of the planform of the  
10 upper body with considerable three-dimensional precision, including a requirement not to have step  
11 discontinuities in the body's surface which are radar reflective. This claim was reviewed by the  
12 examiner, and he indicated that it would be considered for allowance.

13 Claim 54 is is dependent on allowable Claim 40, and is similar to dependent Claim 50,  
14 except that it pertains to avoidance of detection when submerged, as indicated in pg. 9, paragraph  
15 9 of the specifications, and as shown in the non circular shapes made principally of submerged flat  
16 panels shown in Figs. 5C, D, E and Fig. 3.

17 It is believed that the present amendments add no new matter and place the claims in  
18 condition for allowance over the cited prior art as is the custom in response to final rejection.  
19 Applicant further would like to thank the examiner for his time and efforts in communicating the  
20 deficiencies in the originally filed application and in the subsequent communications, and has  
21 attempted to correct all outstanding problems in this amendment.

1 Applicant is mailing this amendment after expiration of the three month response period but  
2 within the third month's extension of time permitted by 37 C.F.R. § 1.136 and accompanied by the  
3 fee set forth in 37 C.F.R. § 1.17(a). This application is thus believed to be in condition for allowance  
4 of all claims remaining herein, and such action is respectfully requested.

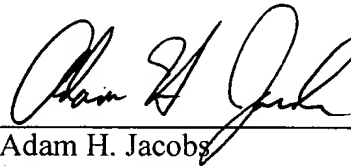
5 Respectfully submitted,

6 

7 Adam H. Jacobs  
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11 Omaha, Nebraska 68102  
12 Attorney for Petitioner

13 CERTIFICATE OF MAILING

14 I hereby certify that this Amendment for a SUBMERSIBLE HULL AND HYDROFIELD,  
15 Serial N° 09/677,583, was mailed by first class mail, postage prepaid, to the Mail Stop Non-Fee  
16 Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on this 28th  
17 day of October, 2003.

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19 Adam H. Jacobs  
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